

# INTERNATIONAL SEARCH REPORT

Inte Application No  
PCT/GB 03/02441

A. CLASSIFICATION OF SUBJECT MATTER  
IPC 7 H04J14/02 H04J14/08

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 H04J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6 388 782 B1 (CONNOLLY JOHN CHARLES ET AL) 14 May 2002 (2002-05-14) column 11, line 58 -column 12, line 21; figure 9	1,2
Y	column 13, line 43 -column 14, line 3; figure 11 column 14, line 25 - line 32; figure 12 column 15, line 8 - line 15 column 15, line 63 -column 16, line 16 column 19, line 47 - line 50 column 20, line 7 - line 45; figures 22,23	3,4
Y	US 6 028 697 A (LEE DO-HYUNG) 22 February 2000 (2000-02-22) column 2, line 24 - line 39 --- -/-	3,4

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*Z\* document member of the same patent family

Date of the actual completion of the international search

12 February 2004

Date of mailing of the international search report

20/02/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Alonso Martin, M.E.

# INTERNATIONAL SEARCH REPORT

Intern. Application No  
PCT/GB 03/02441

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 5 815 294 A (NISHIMOTO HIROSHI ET AL) 29 September 1998 (1998-09-29) column 11, line 8 - line 17; figure 3 column 11, line 34 - line 47; figure 4 column 11, line 66 - column 12, line 30 column 14, line 60 - column 15, line 27; figure 9 -----	1-4
A	PATENT ABSTRACTS OF JAPAN vol. 007, no. 158 (E-186), 12 July 1983 (1983-07-12) & JP 58 066444 A (MITSUBISHI DENKI KK), 20 April 1983 (1983-04-20) abstract -----	1-4

# INTERNATIONAL SEARCH REPORT

Information on patent family members

Intern

pplication No

PCT/GB 03/02441

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 6388782	B1	14-05-2002	US 6014237 A 11-01-2000
			EP 1097539 A1 09-05-2001
			JP 2002521861 T 16-07-2002
			WO 0004669 A1 27-01-2000
			AU 4952699 A 20-12-1999
			CA 2333713 A1 09-12-1999
			CN 1307768 T 08-08-2001
			EP 1078488 A1 28-02-2001
			JP 2002517945 T 18-06-2002
			WO 9963694 A1 09-12-1999
US 6028697	A	22-02-2000	KR 210913 B1 15-07-1999
			CN 1181647 A ,B 13-05-1998
			DE 19733365 A1 12-02-1998
			FR 2752067 A1 06-02-1998
			GB 2315939 A ,B 11-02-1998
			JP 3178661 B2 25-06-2001
			JP 10075002 A 17-03-1998
			RU 2146069 C1 27-02-2000
US 5815294	A	29-09-1998	JP 8321805 A 03-12-1996
			EP 0700178 A2 06-03-1996
			US 5991477 A 23-11-1999
			US 5870213 A 09-02-1999
			US 5717510 A 10-02-1998
			US 5909297 A 01-06-1999
			US 5754322 A 19-05-1998
			US 5896217 A 20-04-1999
			US 5760937 A 02-06-1998
JP 58066444	A	20-04-1983	NONE